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10/823,102	04/13/2004	Yonghe Liu	TI-37140	4525
23494 7590 02/04/2009 TEXAS INSTRUMENTS INCORPORATED P O BOX 655474, M/S 3999 DALLAS, TX 75265				
EXAMINER SWEET, LONNIE V				
ART UNIT		PAPER NUMBER		
2419				
NOTIFICATION DATE		DELIVERY MODE		
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

uspto@ti.com

### Office Action Summary

Application No.

10/823,102

Applicant(s)

LIU ET AL.

Examiner

LONNIE SWEET

Art Unit

2419

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 21 October 2008.  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-6, 8-20 is/are rejected.  
7) ☒ Claim(s) 7 is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☒ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_  
5) ☐ Notice of Informal Patent Application  
6) ☐ Other: \_\_\_\_\_

***Response to Amendment***

Receipt is acknowledged of applicant's amendment filed 10/21/2008. Claims 1-20 are pending and an action on the merits is as follows.

**DETAILED ACTION**

***Oath/Declaration***

The signature of each inventor (family name and at least one given name together with any initial) has not been set forth.

***Claim Rejections - 35 USC § 101***

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-9 are rejected under 35 U.S.C 101 because the claimed invention is directed to non-statutory subject matter.

In claims 1-9 "an arrangement for avoiding contention... comprising a first portion and second portion" is claimed as the invention. However, this arrangement is a data structure which is categorized as non-statutory subject matter. Therefore, the arrangement as claim is not patentable.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the

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art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-15 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

In claims 1-15, a first portion is configured to "instruct the receiver to indicate that the communication medium is busy. However, there is no sufficient support found in the specification for the indication and how the indication is to be **performed by the receiver**.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 1-20 contain the phrase "a time period substantially longer", it is relative term and does not clearly point out what the applicant regards as

"substantially". A quantitative value or boundary of values would be provide more insight as to how the term "substantially" should be interpreted.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2, 4, 8-10, 11, 14-16, 18, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Benveniste et al. 2004/0095911 (hereinafter Ben), in view of Charrat 5,774,459.

Regarding claims 1, 2, 4, 10, 11, 16, and 18, Ben teaches a wireless network comprising a transmitting and receiving elements [See Figure 1], wherein the transmitting element transmits a packet containing data instructions that makes the communication channel appear busy [See Figure 1]. This instructs receiving stations to back off for a period of time, in which they are deferred from transmitting messages across the wireless medium [See, Ben Paragraph 59]. But Ben does not teach that the value of time which the receivers are instructed to perceive the communication medium as busy substantially longer than the actual frame transmission period being sent.

However, Charrat discloses that the a busy period for a channel, for which other devices may be forced into a standby state, may be longer than the period of transmission planned for a message [Charrat, Column 4, Lines 1-10].

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of Ben indicating a network that resolves contention issues by instructing other wireless communication modules to wait until after a the contention period has ended before accessing the communication channel, with the teachings of Charrat indicating that the contention period maybe substantially longer than the transmitted message. The benefiting result of the combination would have been a reduction of network long due to the reduction of channel access attempts.

Regarding claims 8, 9, 14, 15, and 20, Ben teaches a wireless network comprising a transmitting and receiving elements [See Figure 1], wherein the transmitting element transmits a packet containing data instructions that makes the communication channel appear busy [See Figure 1]. This instructs receiving stations to back off for a period of time, in which they are deferred from transmitting messages across the wireless medium [See, Ben Paragraph 59], thus functioning as a NAV performing VCS function

Claims 3, 5, 12, 17, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ben, in view of Charrat, and further in view of Terry et al. US 7,046,651 (hereinafter Terry).

Regarding claims 3, 17 the combination of Ben, in view of Charrrat teach the presence of a transmitter and receiver in the contention control system.

But the combination of Ben, in view of Charrrat does not specifically disclose that the transmitter has a much higher throughput capability than the receiver.

However, Terry teaches the transmitter has a much higher throughput capability than the receiver [Terry Column 9, Lines 33-37].

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to mount high throughput taught by Terry into the contention control system as shown in the system of Ben, in view of Charrrat to in order to improve longevity of the network devices so that they will be capable of supporting communications to new receivers to come that may have increased reception rates.

Regarding Claims 5 and 12, the combination of Ben, in view of Carrat disclose a contention control communication system wherein instruction are contained within the packets but it does not specifically disclose that the first portion includes a designation in a SIGNAL1 field of a physical layer convergence protocol (PLCP) frame constituting the same frame that is being sent from the transmitter to the receiver.

However, Terry teaches the first portion includes a designation in a SIGNAL1 field [See Terry Figure.11, OFDM signal field] of a physical layer convergence protocol (PLCP) frame constituting the same frame that is being sent from the transmitter to the receiver [Terry, Column 13, Lines 51-60].

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to mount signaling for frame transmission taught by Terry into the contention control system as shown in the system of Ben, in view of Charrat to in order to improve priority data transfer.

Regarding claim 19, Ben, in view of Charrat disclose a contention control communication system wherein instruction are contained within the packets but it does not specifically disclose the instruction is a designation in a SIGNAL1 field of a physical layer convergence protocol (PLCP) frame constituting the same frame that is transmitted from the transmitting element to the receiving element, the SIGNAL1 field defining parameters associated with a particular communications protocol that is one of plural distinct communications protocols operating on the network.

However, Terry teaches the instruction is a designation in a SIGNAL1 field [Terry, Figure. 11, OFDM signal field] of a physical layer convergence protocol (PLCP) frame constituting the same frame that is transmitted from the transmitting element to the receiving element, the SIGNAL1 field defining parameters associated with a particular communications protocol that is one of plural distinct communications protocols operating on the network [Terry, Column 13, Lines 51-60].

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to mount high throughput taught by Terry into the contention control system as shown in the system of Ben, in view of Charat, in order to improve transmission rate.



Claims 6 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ben, in view of Charrat, and further in view of Terry, in view of Luna-Aceves et al. US 6,996,074 (hereinafter Luna).

Regarding claims 6 and 13, the combination of Ben, in view of Charrat, and further in view of Terry discloses all of the limitations as applied to claim 5 and 12 but fails to specifically disclose legacy receivers, having a slower throughput capability than a throughput capability of the transmitter, recognize the SIGNAL1 field but do not recognize a SIGNAL2 field.

However, Luna teaches legacy receivers, having a slower throughput capability than a throughput capability of the transmitter, recognize the SIGNAL1 field but do not recognize a SIGNAL2 field [Luna Column 5, Lines 25-28].

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to mount slower throughput taught by Luna into the contention control system as shown in the system of the combination of Ben, in view of Charrat, and further in view of Terry in order to lower traffic on the network by controlling transmission rates of receivers on the network.

***Allowable Subject Matter***

Claim 7 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

The examiner has completed a thorough search of the disclosed invention and neither of the cited reference separately or in combination disclose, teach, or suggest in any form the arrangement of Claim 1, wherein the first portion sets the time period equal to a virtual clear channel assessment (VCCA) time period that equals the sum of:

- a content of a Duration field in frame header of the frame being
- transmitted;
- eight times a quotient of an actual length, in octets, of the frame being
- transmitted, and a transmission rate, in Mbps, of the frame being transmitted; an extender inter frame space; and a distributed inter frame space. .

### ***Response to Arguments***

Applicant's arguments with respect to claims 1-20 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LONNIE SWEET whose telephone number is (571)270-3622. The examiner can normally be reached on M-F 8-4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on (571) 272-3088. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/L. S./  
Examiner, Art Unit 2419

/Hassan Kizou/  
Supervisory Patent Examiner, Art Unit 2419